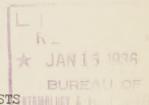
## Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.



United States Department of Agriculture Bureau of Entomology and Plant Quarantine



APPARATUS FOR TREATING INSECTS WITH CONTACT DUSTS TAMBLES &

By F. S. Chamberlin, Division of Truck Crop and Garden Insect Investigations

A simple apparatus used to treat flea beetles with contact dusts is shown in the diagram (fig. 1).

A glass lantern globe, which served as a cage to confine the beetles, was covered with a piece of rubber dam attached with a rubber band during the introduction of the dust. As soon as the dust cloud had settled, cheese cloth was substituted for the rubber dam. The lantern globe was held in place on the board and leakage was avoided by sealing with asbestos furnace cement.

Accurate quantities of finely ground, free-flowing dusts can be introduced into the lantern globe with excellent distribution by means of the atomizer shown in figure 1, provided that the apparatus is absolutely dry. Slow, careful manipulation of the bulb is necessary for the best results.

Weighing the dust charge may be facilitated by placing a tube containing the dust upon the balance pan, held in an upright position in a small block of wood with a one-half inch hole, and counteracting the weight of the tube and block by means of a weight in the other pan. The dust can be introduced into the lantern globe cage with very little loss, provided that the glass tube and rubber tubing leading to the cage are tapped lightly during the introduction process. For comparative toxicity experiments, a series of cages may be placed conveniently upon a board of the proper length, as shown in the photograph (fig. 2).

The apparatus described is especially suitable for treating flea beetles with contact dusts. All other apparatus previously tested either confined the insects too closely or allowed large errors in dosage. The loss of dust through screen wire cages was especially apparent.

The tobacco flea beetles used in the experiments crawled about the floor and sides of the lantern globe cage, the majority remaining in the lower half. A piece of green tobacco leaf about 1 inch square, to serve as food, was placed in the cage after the introduction of the dust charge.

Depth States Department of agriculture

APPARATUS FOR TREATING INCOMES CITIS CONTACT SUCCESSION OF THE PARAMETERS.

By P S. Chamberlin Division of Trace Copy and Carden

A simple apparatus used to treat list smaller with confest dusts to those

A place language to the control solves as a mage to control the language to control the language to control with a place of color of colors of the colors as the dust stock and colors of colors of the colors of th

Accurate quantities of fundy ground from (howless one indicates and a indicate of interest and i

The deal of the state of the st

The apparatus described to experintly within the leading that the contract was all other apparatus pretimary that all other apparatus pretimary that all other apparatus of the contract of th

A street and the second of the property of the property of the second of

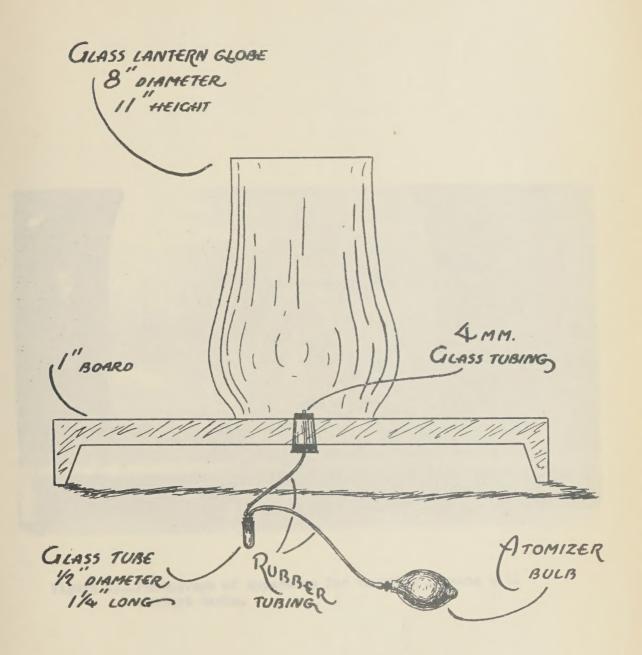


Figure 1 .- Diagram of apparatus for treating insects with contact dusts.

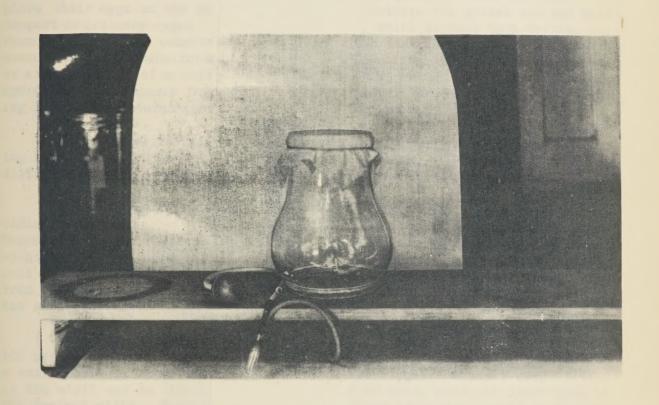


Figure 2.—Photograph of apparatus for treating insects with contact dusts.

